2.3 Hazards and Hazardous Materials

Final EIR Introduction

This section has been changed subsequent to the public review of the February 2005 Draft EIR and the April 2008 Revised Draft EIR as follows:

1. Fire Code References have been updated to reflect the 2009 Consolidated Fire Code
2. The section was updated to reflect the updated Fire Protection Plan (Dudek, 2010) that was accepted by the Ramona Municipal Water District. This plan includes more stringent fire safety requirements, including the requirement for the provision of an On-Site Fire Safety Coordinator
3. The water tank size and water infrastructure improvements have been updated to reflect the RMWD 2009 Water System Evaluation.
4. The traffic evacuation analysis has been deleted.
5. The Conclusions section was expanded to provide more explanation as to how impacts will be mitigated to a level less than significant.

As explained in the April 2008 Revised Draft EIR, *Section 2.3 Hazards and Hazardous Materials* was revised to incorporate information from the Fire Protection Plan (FPP) that has been prepared for the Salvation Army Divisional Camp and Retreat (based on the site layout for Reduced Project Alternative I – see Final EIR Introduction Chapter). Mitigation Measure 2.3.b of the DEIR included required content for the future FPP. The measures required by Mitigation Measure 2.3.b were incorporated into the FPP. Mitigation Measure 2.3.b, has been amended to require that the recommendations and measures identified in the FPP be implemented at the project site.

Also as explained in the April 2008 Revised Draft EIR, Section 2.3, Hazards and Hazardous Materials was ~~has also been~~ revised to include a detailed analysis of the infeasibility of providing a secondary emergency access to/from the project site via SR-67, and ~~also includes~~ an analysis of the potential impacts to Mussey Grade Road under an emergency evacuation scenario.

This discussion includes information provided in the Salvation Army Divisional Camp Fire Protection Plan (FPP) prepared by Dudek (Dudek, 2009 [EIR Appendix I]).

2.3.1 Existing Conditions

The Ramona Planning Area, where the project site is located, experiences significant fire hazards due to its location within heavily vegetated foothills within a relatively dry climate, especially during summer months. The Salvation Army Divisional Camp property is located in a rural setting and is largely covered with highly flammable native and non-native vegetation. The project site lies within an area designated as having a very high fire hazard potential by the California Department of Forestry (Cal Fire) (2007 Proposed Fire Severity Mapping) and is located within the jurisdiction of the Ramona Fire Department (RFD), which contracts with Cal Fire.

The topography of the site consists of steep slopes in the western portions of the property that transition into rolling hills and flatter pasture-like areas, which are occasionally bisected by intermittent and ephemeral drainages. The northern and western portions of the property contain steeper and more rugged terrain with slopes ranging from 30% to 45%. The central and eastern portions of the property, where most of the buildings associated with the camp expansion are proposed, is characterized by much flatter terrain with slopes averaging approximately 10%. A majority of the vegetation on-site is mixed chaparral, comprising approximately 71% of the property. This vegetation community is located primarily on steep slopes in the northern and western areas of the site. The vegetation adjacent to a large portion of the proposed camp improvements consists of oak savannah with grass understory and riparian oak communities. Also, coastal sage scrub communities combine to represent nearly 11% of the property, located on the steeper slopes of the property. A little over 14% of the property is characterized by grasses, including those areas classified as oak and non-native woodlands, as the understory is commonly limited to non-native grasses. The remaining vegetation occurs in lower amounts.

The climate in the project area is typified by warm, dry summers and wetter winters. Precipitation typically occurs between December and March. The prevailing wind is an onshore flow with fall winds (Santa Ana Winds) from the northeast that may gust to 50 miles per hour or higher. The project area's climate has a large influence on the fire risk as drying vegetation during the summer months becomes fuel available to advancing flames should an ignition occur. Extreme conditions, assumed for fire behavior modeling for the project site, include 95 degree temperatures in the summer and wind gusts of 12, 18 and 24 ~~50~~ miles per hour (mph) during the fall. Relative humidity of less than 10% is possible during fire season. The 12, 18, and 24 mph wind speeds used in the fire behavior modeling were obtained from the Goose Valley RAWS station, where 19 mph maximum sustained wind speeds and 41 mph gusts were documented. To evaluate the effects of higher wind speeds of 35 and 50 mph, observed in 2007 fires, additional BehavePlus runs were conducted. Using an adjustment factor of 0.6, 35 and 50 mph wind speeds were adjusted to mid-flame speeds of 21 mph and 30 mph, respectively.

Fire history is an important component of fire protection planning. Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources, amongst others. Appendix C – Fire History Exhibit, provided in Appendix I ~~J (Fire Protection Plan) of this Revised Draft EIR~~ (FPP), presents a fire history exhibit for the Salvation Army Divisional Camp site and project vicinity. There have been several fires recorded by fire agencies both on and in the vicinity of the project site. Fire history data was obtained via the California Department of Forestry and Fire Protection (CDF) Fire and Resource Assessment Program (FRAP)[1] database. The most recent fire, the Witch Creek Fire, occurred in the Ramona area in October 2007. This fire burned well north and east of the project site, and did not reach the Mussey Grade area. The most recent fire that burned across the site and damaged several older structures onsite (built prior to code updates intended to reduce risk of ignition) was the Cedar Fire in 2003. Prior to the Cedar Fire, the 1995 Poway Fire burned the southwestern portion of the property, the 1972 Klondike Fire burned the northern portion of the property, the 1958 Pearson Peak Fire burned the northwestern portion of the property, and an unnamed fire in 1913 burned the entirety of the property. Based on a review of this information, fire return intervals from the documented 1913 fire to the 2003 Cedar

[1] California Department of Forestry and Fire Protection; Fire and Resource Assessment Program; (http://frap.cdf.ca.gov)

Fire have generally become shorter over time, with 45, 14, 23, and 8 years separating documented fire events onsite, respectively, but with an average fire frequency of approximately every 30 years.

Information on the services and existing conditions of the Ramona Fire Department is further described in Section 6.2, Public Services, of this EIR. The Salvation Army Divisional Camp is located within the jurisdiction of the Operational Area Emergency Plan (OAEP) established by the County Office of Disaster Preparedness. The San Diego County Operational Area Emergency Plan describes a comprehensive emergency management system which provides for a planned response to disaster situations associated with natural disasters, technological incidents, and nuclear-related incidents. The OAEP defines responsibilities, establishes lines of communications, and is designed to be part of the Statewide Standardized Emergency Management System.

The Salvation Army Divisional Camp is accredited by the American Camping Association (ACA). As an accredited ACA camp[2] for the past five years, the Salvation Army Divisional Camp adheres to all mandatory standards of the ACA. ACA standards are divided into categories and ranges of applicability such as site and food service and transportation and operational management. The operational management category, which is applicable to all types of ACA camps, requires that each camp establish written emergency procedures that are specific to the site, staffing, type of camp operation and clientele. Procedures normally include what to do in case of storms, earthquakes, fires, or power outages, as well as site or building evacuation procedures. These written materials can be found posted within buildings throughout the camp.

The Salvation Army Divisional Camp has an existing internal Emergency Evacuation Plan, known as the Disaster Plan, in place that has been reviewed and approved by the Sheriff's Department. This Disaster Plan gives general instructions to be followed during evacuation and would be used throughout the development and operation of the project, including, 1) continuous honking of horns to alert campers and staff; 2) assembling on existing play fields; 3) counselors will stand with campers and verify that all assigned campers are accounted for; 4) designated staff members will look for any missing campers; and, 5) wait for further instructions from emergency personnel. ~~There is one primary point of access with one additional ingress route available to the fire department.~~

The effectiveness of the Salvation Army's Disaster Plan was demonstrated during the October 2003 fire disaster. Two groups, including approximately 100 campers, were on the project site when the fire struck the property (pers. comm., D. Patton, November 2003). The Salvation Army had begun their procedures to self evacuate the site when the Sheriff arrived at 7:20 a.m. on October 26th to request the camp be evacuated. The Salvation Army's Disaster Plan procedures were followed and no injuries or loss of life occurred. However, ~~several~~ seven on-site structures were burned including ~~three~~ two staff residences on-site (one off-site staff residence was also burned) ~~one activity building~~, ~~two~~ three camp cabins, ~~one~~ the clinic/infirmary, and one maintenance shed along with vehicles and equipment~~, and o~~One tent/platform was also burned. All structures that burned have since been replaced. The Witch Creek Fire began on Sunday, October 21, 2007. That weekend, there were approximately 85 campers at the camp. However,

[2] The camp was most recently accredited in 2005, with the accreditation valid through 2008.

these campers left the camp in late morning/early afternoon, well before the mandatory evacuation of the community of Ramona was issued. Approximately nine camp staff personnel evacuated later that evening, all without incident.

Since the October 2003 fire disaster, the Salvation Army has updated the Disaster Plan to include additional emergency procedures. The updated emergency procedures are included in the Fire Protection Plan (Appendix I). The updated emergency procedures include details for site evacuation. These procedures were originally reviewed by Ramona Municipal Water District (RMWD) Fire Marshal Steve Delgadillo and Chief Vogt, and have been updated and expanded based on the Fire Protection Plan prepared for the project. A letter from the Ramona Municipal Water District Fire Marshal with approval of emergency procedures is included in Appendix I. Additionally, a Fire Protection Plan (FPP) has been prepared for the camp (discussed in Section 2.3.3.1). The FPP was reviewed, and accepted by the County of San Diego Fire Services Coordinator and by the Ramona Municipal Water District Fire Marshal in ~~2007~~November 2009. Specifically, correspondence dated November 27, 2009 from the Ramona Fire Prevention Bureau of the Ramona Municipal Water District states, "The FPP is generally satisfactory and in compliance with the requirements of CCR T-24 part 9 and this agency's specific project requirements. It is acceptable to the Ramona Fire Department." (See Appendix I).

2.3.1.1 Current Fire Protection Status

The status of fire protection features at the camp prior to the 2003 Cedar wildfire, which burned the site causing the loss of several structures, was very different from the current status onsite. Since the 2003 Cedar Fire, the Salvation Army has implemented fuel modification (brush clearance) and has replaced burned buildings, with new, ignition-resistant construction.

2.3.1.2 Existing Water Supply and Fire Flow

The following comprises the existing water infrastructure available at or near the site:

- A 10,000-gallon water tank is situated north of the existing administrative building at an elevation 100 feet higher than the remainder of the Camp.
- Fire flow – gravity fed, pressure varies by Camp location.
- A 30,000-gallon swimming pool is located adjacent to the recreational field.
- San Vicente reservoir is located 3.6 miles south of the Camp.
- An approximately 3-acre pond is located adjacent to the property's southern boundary on an off-site parcel.
- An approximately 2-acre pond in Dos Picos Park is located 1.4 miles north of the existing administrative building.

2.3.1.3 Existing Fire Access

The project site is accessed off Mussey Grade Road via an existing driveway road that includes intermittent paving and packed decomposed granite surface. From Mussey Grade Road, the site's primary access road passes through an existing gate and traverses 1.3 miles to the existing parking lot area. The road has

been placed to take advantage of the terrain, following a natural drainage bottom area around steeper hillsides on either side until it enters a flatter meadow area approximately 0.5 linear mile from Mussey Grade Road. The road takes a sharp turn to the west before it terminates at a large paved parking area.

2.3.1.4 Existing Building Fire and Ignition Resistance

The 28 structures currently existing at the camp were constructed with varying degrees of ignition resistance. Newer structures, constructed after the 2003 Cedar wildfires, are built in accordance with codes which require ignition-resistant construction. Maintenance facilities on-site are metal sided and fire proof. Older structures do contain some features consistent with ignition-resistant construction, but also include wood siding, unboxed eaves, and other potentially vulnerable features.

2.3.1.5 Existing Fire Protection Systems

The following are the existing fire protection systems at the camp:

- Approximately one-half (14) of the 28 existing structures include interior fire sprinklers.
- Three fire hoses and outlet attachments are located throughout the camp's developed areas – fed by gravity from the camp's 10,000-gallon water tank.
- Smoking is prohibited on-site.

2.3.1.6 Existing Defensible Space/Vegetation Management

Defensible space at the camp site consists of the following:

- Primary-access-road shoulder is mowed to the extent possible, including up to 100 feet in open meadow areas.
- Property perimeter is mowed, especially along north/south circulation road.
- Large grass fields are tilled along perimeters and on their interior to break up light, flashy fuel continuity.

The Salvation Army Divisional Camp currently uses propane gas stored in tanks for heating and cooking purposes within the property. There are approximately seven to ten propane tanks located throughout the site. Additionally, there are two above-ground storage tanks storing diesel and gasoline for maintenance vehicles in the existing maintenance yard. Two additional 55-gallon drums are on-site which store waste oil and used oil filters for proper disposal and recycling. Based on a records search of the County of San Diego Hazardous Materials Establishment Listing Search (County of San Diego Listing: Establishment Number H35642, February 2002), the tank storing gasoline has the capacity of 550 gallons, while the tank storing diesel fuel has a capacity of 280 gallons. The existing gasoline and diesel tanks were upgraded in 1998, as directed by a County of San Diego health inspector, by constructing a concrete well underneath the tanks to prevent soil contamination in the case of a spill or leak (pers. comm. Patton, D., April 2000). No recorded violations were found on the County of San Diego Listing as of February 2002. The San Diego County Department of Environmental Health requires the preparation of a Business Plan for any business which uses, handles, or stores more than 55 gallons of a hazardous substance. Business Plans contain basic information about the location, type, quantity and health risks of the hazardous materials stored, used or

disposed of by a business. The Salvation Army currently has a Business Plan for the two above-ground storage tanks.

2.3.2 Thresholds of Significance

In accordance with CEQA Appendix G and the County of San Diego Operational Area Emergency Plan, the project would result in a significant Hazards and Hazardous Materials impacts if it:

- Results in a significant risk of accidental explosion or release of hazardous substances (State of California, 2002).
- Results in or has the potential to interfere with the County of San Diego Operational Area Emergency Plan or the County of San Diego Operational Site Specific Dam Failure Evacuation Data Plans.
- Increases the potential for fire in areas with flammable vegetation or exposes people or the property to fire hazards, flooding or any other significant health or safety hazard (State of California, 2002).

These criteria are applicable for this analysis as they are based on approved federal and local laws such as the Federal Resource Conservation and Recovery Act, Executive Order 11988 (floodplains), the County of San Diego's Operational Area Emergency Plan, and the San Diego Operational Site Specific Dam Failure Evacuation Data Plans, which are designed to preclude Hazard and Hazardous Materials impacts.

2.3.3 Analysis of Project Effects and Determination as to Significance

Impact 2.3.a The existing above-ground fuel storage tanks are proposed to be relocated along with the maintenance facility to the central-eastern boundary of the project site (Figure 1-4). Although the County of San Diego Listing has indicated that no recorded violations have occurred from these tanks, there is a possibility for unrecorded violations in the past that may have resulted in soil contamination in the existing maintenance facility area. New staff housing is proposed for this area, which would involve future grading and construction activities in this potentially contaminated area. Additionally, the removal and relocation of these above-ground storage tanks could result in accidental leaks or spills. Therefore, impacts from the proposed tank removals are considered potentially significant.

The project site lies outside any mapped dam inundation area for major dams/reservoirs within San Diego County, as identified on inundation maps prepared by dam owners. Therefore, the project would not impair the implementation of the County of San Diego Operational Site Specific Dam Failure Evacuation Data Plans.

The project is located within the jurisdiction of the San Diego County Operational Area Emergency Plan (OAEP) and also has an established internal Disaster Plan. The applicable law enforcement agencies have developed a community-wide Ramona Community Planning Area "Community Protection and Evacuation Plan" for Ramona using guidelines provided by the County Office of Emergency Services (OES).

According to the Ramona Evacuation Plan, evacuations must be phased in order to move smoothly, and evacuations related to County wildfires in October 2007 demonstrated that orderly and efficient large-scale evacuations are possible when aided by reverse 911 systems during emergencies. The San Diego Association of Governments (SANDAG) stated that 515,000 County residents received a voluntary or mandatory evacuation notice during the October 2007 fires, making it the largest fire evacuation operation in the nation's history. Although traffic slowed during the 2007 evacuation, all residents of Ramona who followed evacuation orders exited the area with no loss of life.

This plan is on the County's website (http://www.co.san-diego.ca.us/oes/docs/ CPEP_Ramona.pdf). The plan includes evacuation routes from the community in case of an emergency. Specific to this area, the plan requires the intersection of Hwy 67 and Mussey Grade Road to be staffed with a traffic control officer. This will allow continual movement of evacuees towards Hwy 67.

The proposed project will not interfere with the implementation of the broader OAEP or the community specific Ramona Community Protection and Evacuation Plan. The proposed project will not create a barrier to evacuation or prevent the goals and objectives of the existing plan from being carried out because, as discussed below, if safe evacuation is not possible, the Shelter-in-Place procedures would be implemented.

There are no Federal Emergency Management Agency-mapped floodplains on or in the general vicinity of the project site. The proposed project has been designed so that structures would not be subject to inundation from a 100-year storm, which is defined as a storm that has a one percent probability of being equaled or exceeded in any one year. Additionally, on-site wetlands, which provide floodwater retention, would be preserved under the proposed project. Therefore, the proposed project is compliant with all adopted emergency response and emergency evacuation plans and impacts associated with flooding would not be significant.

The proposed project includes several improvements to the existing water system. At the request of the Salvation Army, the RMWD Department of Engineering commissioned a hydraulic analysis of the water system in Mussey Grade Road including the effects of the proposed campground expansion. The results of the water system analysis for the camp and recommendations for improvements ~~are~~ were originally contained in a report dated January 23, 2002 (RMWD, 2002). The Water System Evaluation was subsequently updated by RMWD in 2009 (see Final EIR Appendix J). This analysis demonstrates that with proposed infrastructure improvements there will be sufficient water infrastructure and capacity to serve the project in a wildfire event.

Based on the ~~2002 study report~~ 2009 Water System Evaluation, the RMWD established water system requirements for the campground. The requirements include a 650,000-gallon tank (expandable to ~~one million gallons~~ 800,000 gallons) at a base elevation of 1,665 feet. The tank will be connected to the existing main in Mussey Grade Road. ~~through two pipeline extensions in a five valve package.~~ The water tank and all pipelines and appurtenances connecting to the main in Mussey Grade Road are to be public and dedicated to the RMWD.

Water for domestic use, irrigation and fire protection will be supplied by a new ten-inch diameter water main located on the project site as shown on the Proposed Site Plan. The RMWD's water main located off-site in Mussey Grade Road is currently not adequate to effectively fight wildfires. The existing water main located in Mussey Grade Road is a six-inch diameter, dead-end pipe extending south to Fernbrook Drive. Although the static pressure in the system is adequate, properties to the south cannot pull enough water through the pipe to fight major fires, and have a marginally reliable water supply at other times. The new proposed ten-inch main will tie into the existing six-inch diameter water main in Mussey Grade Road near the entrance to the property. From there it will run south within the project site near the westerly property boundary a distance of approximately 1,900 feet, then continue south and west beneath the existing camp roadway through Areas 4 and 2 an additional 3,800 feet. On the hillside west of and above Area 2, the water main will connect to the new ~~260,000~~ 650,000-gallon tank (expandable to 800,000 gallons) ~~water storage tank~~. The tank will be approximately ~~60~~ 70 feet in diameter and ~~13~~ 23 feet high. The tank will be at an elevation consistent with the existing pressure zone, so no pump stations or reducing stations will be necessary. The system as designed will provide sufficient fire flow for the proposed Divisional Camp and Retreat Center. It will also add much needed reliability ~~(but not additional capacity)~~ to the existing water distribution system in Mussey Grade Road. The proposed ~~260,000~~ 650,000-gallon tank is larger than needed for the campground alone. In fact, the tank size is based on supplying both domestic and fire needs of all the existing properties in the 2,217-acre service area between the campground and the end of the line at Fernbrook Drive. ~~This includes all properties within the RMWD boundaries along Mussey Grade Road. The 2002 study report prepared for the RMWD states as follows:~~

> ~~*Implementation of this recommendation improves the Mussey Grade Road community water distribution system in the following ways:*~~
>
> ~~*1. Dramatically improves the fire flow to the Mussey Grade Road fire hydrant locations;*~~
>
> ~~*2. Allows for greater operational and emergency water storage should pipeline breaks or shut-downs occur; and,*~~
>
> ~~*3. Eliminates the need for the Mussey Grade Pressure Reducing Valve.*~~

Fire hydrants, fire service laterals, valves and meters will be installed on-site as required by the Ramona Municipal water District and the Fire Marshal.

The new water main, storage tank and appurtenances will be public - operated and maintained by the RMWD. Easements as necessary will be dedicated to the RMWD. All of the parcels to be served will be within the boundaries of the RMWD with the proposed annexation of the 10.8-acre parcel in the north central portion of the site.

Impact 2.3.b The Salvation Army property is located in a rural setting that is largely covered with highly flammable native and non-native vegetation. Additional development in outlying areas, including the proposed project, would result in an increase in visitors to the area, which could expose a greater number of people to potential fire hazards. Therefore, the proposed project would result in a significant impact.

2.3.3.1 Fire Risk Analysis

The level of fire risk for the project site was evaluated, culminating in the preparation of a detailed Fire Protection Plan (FPP) for the project site and the camp operations. Fire Risk analysis methodology included field assessment, fire response, estimated calls and demand for service from the project, and fire behavior modeling.

The vegetation characteristics of the project site are used to model fire behavior. Variations in vegetative cover type and species composition have a direct effect on fire behavior. The native shrub species that compose the chaparral and coastal sage-chaparral scrub plant communities on the project site are a high potential hazard. Vegetation distribution throughout the site varies by location and topography. Riparian woodlands and scrub are concentrated in canyon bottoms and low, flatter areas, while upland areas typically support shrub cover (either coastal sage scrub or chaparral) or grass cover. Vegetation cover affects fire behavior. For example, fire burning in grasslands may have shorter flame lengths than those burning in chaparral or coastal sage scrub; however, fire in grasslands often spreads much rapidly than fire in other vegetation types.

Fire behavior modeling was conducted to document the type and intensity of fire that would be expected on the project site given the characteristics of the project site including topography, vegetation, and weather (see Appendix ~~J~~ I, 3.0 for a detailed discussion of fire risk analysis methodology). A FlamMap model was prepared, which is a graphics-based GIS model that evaluates anticipated fire intensity at the project site and flame length values based on variations in topography and vegetative cover, and provides a graphic output that can be evaluated on site maps. ~~EIR Appendix I, provides a large-scale plot of the FlamMap output.~~ The FlamMap exhibit is provided as Figure 2.3-1. This FlamMap shows the locations of the predicted flame lengths on the project site; thereby allowing appropriate fuel modification zones to be identified. As a result of the FlamMap output, appropriate fuel modification zones have been identified and incorporated into the FPP.

As experienced as recently as 2003, the Salvation Army Divisional Camp site is vulnerable to wildfires given the climate, vegetation, wildland urban interface location, and topographical characteristics of the area, along with the fire history and behavior modeling results discussed in the FPP. The most common type of fire anticipated in the vicinity of the project area is a wind-driven fire from the north/northeast during the fall. Flame lengths can reach over 45 feet.

2.3.3.2 Fire Safety Requirements

A. Fuel Modification Zones

The FPP provides the framework for fire prevention planning for the project site based on the analysis conducted with respect to the existing conditions of the project site and proposed project components. An important component of the FPP is the proposed fuel modification area (brush clearance). Fuel modification areas are designed to gradually reduce fire intensity and flame lengths from advancing fire by placing thinning zones, restricted vegetation zones, and irrigated zones adjacent to each other on the perimeter of all structures.

As discussed in the following sections, a minimum of 100 feet of fuel modification is proposed. ~~required by San Diego County and the State Public Resources code in State Responsibility Areas (SRA). The proposed project meets this requirement as described below.~~ As shown in the FlamMap (Figure 2.3-1) ~~(see EIR Appendix J),~~ there are three proposed types of fuel modifications zones. Zone 1 is the Non-Flammable, Irrigated Zone (50 feet around structure), Zone 2 – Non-Flammable, Reduced-Fuel Zone (51 to 100 feet from structure), and Zone 3 – Modified Fuel Modification Zone for Shelter in Place and Highest Potential Hazard Areas (101 to 175 feet from structure). Specifications of these zones are provided in EIR Appendix I.

For the proposed project site, recommended fuel modification areas are, at a minimum, twice as wide as the predicted flame lengths and in some areas up to 20 times as wide as the predicted flame lengths. The proposed fuel modification zones are depicted in the FlamMap Exhibit (~~see EIR Figure 1-4 and~~ Figure 2.3-1 and EIR Appendix ~~J~~ I). The proposed fuel modification area works in tandem with the other components of the fire protection system, including ignition-resistant construction, interior sprinklers, infrastructure upgrades, and water supply improvements. The proposed water system improvements are described ~~in the preceding text~~ above. These plan components provide the ability for visitors to shelter in place within designated structures.

B. Structural Shelter in Place – Fuel Modification Width

Typical fuel modification widths in California and San Diego County for structures adjacent to the wildland urban interface (WUI) are at a minimum 100 feet and can be wider for steeper terrain and heavy, highly flammable fuels, such as chaparral. For shelter-in-place structures, it is prudent to provide more than 100 feet of fuel modification zone protection, up to as much as four times the predicted flame lengths. On the proposed project site, the longest flame length under worst-case conditions is predicted to be 45 feet (Appendix ~~J~~ I), primarily on the slopes to the north and west of the project site. Based on the terrain and other site-specific characteristics, the maximum fuel modification width prescribed for this site adjacent to the mixed chaparral is 175 feet in the steepest and heaviest fuel areas, such as just north of the cluster of buildings proposed in the northernmost area which is located to the south of a natural landform known as a "saddle." Other areas are prescribed for the standard 100-foot fuel modification zone. In all cases, fuel modification zones that are a minimum of two times the predicated maximum flame length will be provided and in the highest severity areas, up to six times the flame length would be provided. Based on positioning of green areas, recreation fields, and other urbanized landscapes, and the proximity of low-flame length producing fuel types like grass, fuel modification widths of 20 times predicted flame lengths have been achieved (Appendix ~~J~~ I) in some areas including as measured from the eastern boundaries of the camp to proposed structures (Areas 1, 2, 3, and 4).

The FPP identifies the proposed multi-purpose building as the designated shelter-in-place structure. This designated shelter-in-place structure is one of the largest facilities planned for the site, a 19,500-square-foot multipurpose structure, and it includes fuel modification zones equaling nearly six times the predicted flame length to the northwest of the structure and up to 20 times predicted flame lengths on the other exposures. This structure would accommodate up to 1,300 people, as calculated according to the California Building Code, Table 10-A, Building Code Section 1003.2.2. Based on the number of camp visitors and staff expected onsite at any one time, there would be a surplus of shelter-in-place space that would be available to local residents of Mussey Grade Road in case of fire emergencies.

C. Roads

The FPP requires that site access comply with the requirements of the 2009 Consolidated Fire Code (Section 96.1.503.2.1). Standards for road widths and circulation, interior circulation roads, gates, and driveways are provided by Code. ~~As stated in the FPP, the RMWD requested, and the County of San Diego granted, an exception to road standards based on secondary access (See Appendix J of the FPP).~~

Section 96.1.503.2.1 specifies minimum road width of 24 feet. The fire code official may approve a reduced road width if the reduction does not impair access by fire apparatus. The road width reductions were included in the FPP that was approved by the Ramona Municipal Water District Fire Marshal. This approval is provided in Appendix J of the FPP (see EIR Appendix I).

D. Structures

The FPP outlines the ignition-resistant construction (for all structures) that will meet the requirements of the ~~Ramona Fire Department (California Fire Code)~~ Consolidated Fire Code. These requirements, as they pertain to the project site, are summarized in the FPP.

E. Fire Protection Systems

The FPP provides requirements for the infrastructure components of the proposed project. These requirements address fire hydrants, fire sprinklers, fire alarm systems, and a facility-wide alarm system. These requirements are made in order to comply with the 2009 Consolidated Fire Code. ~~Ramona Fire Department requirements, Chapter 47 of the County Fire Code; Chapter 7A, County Building Code, and nationally-accepted fire protection standards including the 2006 International Wildland-Urban Interface Code, as well as consultant's recommendations to assist in providing reasonable on-site fire protection.~~

F. Emergency Planning

Although wildfires can occur any time of the year, they are more likely to become uncontrollable during the period of September to February, coinciding with the Santa Ana winds. ~~The proposed project~~ Under Reduced Project Alternative I, the maximum occupancy is 615 persons at full buildout of the project, ~~could be accommodated at the camp,~~ but the typical Camp population during the period of September to February will be much lower, around 200 persons, as children would be in school during this period.

The Salvation Army Emergency Procedures document is included as Appendix I of the FPP (EIR, Appendix ~~J~~ I). The emergency procedures document was accepted by the RMWD in 2004 and is signed by the RMWD Fire Marshal. These procedures were updated as part of the Fire Protection Plan preparation for the proposed project, which has been accepted by the Ramona Water District Fire Marshal. Emergency procedures include maintaining two large-capacity buses (60 people each) with drivers, or other equivalent vans or buses on the premises; the provision of a Fire Safety Coordinator at the camp, the requirement that the Salvation Army shall conduct a fire drill the first day of every camp period; and the RFD has agreed to and shall observe an annual fire relocation drill/fire drill exercise to ensure proper safety measures have been implemented.

The Salvation Army Divisional Camp is and will continue to be accredited by the American Camping Association (ACA). The camp was most recently visited by the ACA in 2008 and is accredited through 2009.

Annual association fees have been paid through 2010, and the next accreditation visit is expected in 2011 (pers. comm., D. Patton, 12/24/09). Requirements for this accreditation include written procedures specific to the site for various topics including response to storms, earthquakes, fire or other emergencies. Written materials can be found posted in buildings throughout the Camp.

G. Relocation (Camp Evacuation)

As identified in the approved Emergency Procedures Document, in case of fire, the preferred plan is early relocation, assuming that sufficient time is available to relocate visitors and staff from site without impacting Mussey Grade Road. The plan includes policies and procedures to prevent serious fire risks, as well as a Fire Emergency Plan that details the relocation plan and emergency transportation plan. Early relocation from the site to off-site areas via a conservative trigger threshold is the primary response that will be implemented, whenever possible, as determined by the Coordinator's communications with the local authority.

The camp and its structures will be designed and constructed to withstand significant wildfire. Nevertheless, early notification of the camp administrators and subsequently of camp staff and visitors is critical to the timely and safe relocation to the designated evacuation areas. As realized during the October 2007 wildfires in San Diego County, evacuation of very large numbers of people can be accomplished successfully by the reverse 9-1-1 system and a conservative trigger point for initiating the evacuations. In the same manner, when conditions are such that distant wildfire may move toward the Mussey Grade Road area, evacuations will occur allowing as much as several hours to a day or more notice. Subject to input from Ramona Fire Department, Cal Fire, OES, or other fire officials involved in the Incident Command System, the following protocol will be followed at the camp:

The on-site fire safety coordinator will initiate relocation of the camp based on weather conditions, location of the wildfire, and Mussey Grade Road traffic conditions. Any wildfire in San Diego County will trigger a consideration for whether relocation is necessary.

Relocation will occur when it is determined that the wildfire is moving toward the Ramona area or when weather conditions indicate fire spread is likely (relative humidity of 20% or less, sustained winds of 35 mph or more and/or when the National Weather Service issues a Red Flag Warning) And it can be confirmed that there is sufficient time for relocation.

Decisions regarding wildfire behavior and the time available before fire threatens the camp would be made by fire officials involved in the Incident Command. The on-site fire safety coordinator will communicate with Incident Command System for wildfire information.

If there are more than three hours available for relocation before the wildfire would threaten the camp, the on-site fire safety coordinator will implement relocation.

If there are between two and three hours available for relocation before the wildfire would threaten the camp, then the on-site fire safety coordinator will assess Mussey Grade Road conditions. If Mussey Grade Road is blocked or otherwise not flowing freely, then the shelter-in-place strategy would be implemented.

Under all circumstances, if the on-site fire safety coordinator cannot confirm with Incident Command how much time is available before a wildfire would threaten the camp, the on-site fire safety coordinator would implement the shelter-in-place strategy.

On the first day of every camp period including new campers, the Salvation Army will conduct a fire relocation/fire drill to train campers on what to do during a wildfire and where to assemble (CCR Title 19, section 3.13 c.). This drill will be observed by the RFD at least annually. RFD may require Salvation Army to revise the procedure as necessary to provide the most efficient and safest relocation process.

If a relocation of camp staff and visitors were required, the following procedures would be followed.

Since relocation of the camp and its visitors, at maximum usage, may require in excess of an hour, if adequate time is not available, the decision to remain in the shelter-in-place site will be made by the camp director or his appointed staff person, with the assistance of fire and law enforcement personnel, and relocations will cease. Relocations/evacuations will occur much as they did during the October 2007 San Diego County wildfires with OES personnel monitoring fire occurrences, weather forecasts, and fire behavior models to conservatively issue evacuations well in advance of wildfire direct threat to a particular area. Local residents of Mussey Grade Road who may not have a designated safe site will also be directed to the shelter-in-place facility, possibly by the Reverse 9-1-1 system but also by information dissemination throughout the year notifying local residents of the shelter-in-place option being provided.

In an effort to reduce the impact on Mussey Grade Road, two large-capacity buses (120 total people, 60 people each) would be stationed at the camp at all times. These buses, along with other vans and personal vehicles, could be utilized during a relocation effort.

- Designated camp buses, vans, and passenger cars would be mobilized and loaded with camp visitors and staff. Again, this would occur over the course of hours as relocation/evacuation would only occur when substantial time is available to safely relocate people.
- The vehicles would exit the site via the primary site access off Mussey Grade Road.
- The vehicles would convoy north on Mussey Grade Road to the Ramona United Methodist church at 3394 Chapel Lane (Hwy 67 and Dye Road).
- Once unloaded, and given an update on the situation, the vehicles would either proceed back to the camp to relocate additional staff or remain at the church if conditions would not warrant a return.
- As long as conditions warranted return trips to relocate campers, the vehicles would make the approximately 12- to 15-minute round trip until all staff and visitors were relocated.
- If the maximum 615 people were on site and were to be relocated, between buses, vans and personal vehicles, it is estimated that 150 people could be relocated each trip. Round trip from Salvation Army Divisional Camp site to the United Methodist church and back requires

approximately 12 to 15 minutes with open roads. At that rate, the camp staff, visitors, and campers could be relocated within approximately 1 hour.

Persons relocated to the Church would be temporarily housed at the church until they could return to the camp or were relocated to their respective homes outside the area at risk.

~~As identified in the approved Emergency Procedures Document, in case of fire, the preferred plan is to evacuate the Camp. The plan includes policies and procedures to prevent serious fire risks, as well as a Fire Emergency Plan that details the relocation plan and emergency transportation plan.~~

~~The Camp and its structures will be designed and constructed to withstand significant wildfire. Nevertheless, early notification of the Camp administrators and subsequently of Camp staff and visitors is critical to the timely and safe relocation to the designated evacuation areas.~~

~~On the first day of every camp period including new campers, the Salvation Army~~ Fire Safety Coordinator ~~will conduct a fire relocation/fire drill to train campers on what to do during a wildfire and where to assemble. This drill will be observed by the RFD at least annually. RFD may require the Salvation Army to revise the procedure as necessary to provide the most efficient and safest relocation process.~~

~~If a relocation of Camp staff and visitors were required, the following procedures would be followed. Relocation (evacuation) of the Camp and its visitors, at maximum usage, may require in excess of an hour. If adequate time is not available, the decision to remain in the shelter-in-place site will be made, with the assistance of fire and law enforcement personnel, and relocation will cease. Local residents of Mussey Grade Road who may not have a designated safe site will also be directed to the shelter-in-place facility if adequate relocation (evacuation) time is not available.~~

~~Two large-capacity buses (120 total people, 60 people each) would be stationed at the Camp at all times. These buses, along with other vans and personal vehicles, could be utilized during a relocation effort.~~

- ~~Designated Camp buses, vans and passenger cars would be mobilized and loaded with Camp visitors and staff.~~
- ~~The vehicles would exit the site via the primary site access off Mussey Grade Road.~~
- ~~The vehicles would convoy north on Mussey Grade Road to the Ramona United Methodist Church at 3349 Chapel Lane (Hwy 67 and Dye Road).~~
- ~~Once unloaded and given an update on the situation, the vehicles would either proceed back to the Camp for additional people or remain at the church if conditions would not warrant a return.~~
- ~~As long as conditions warranted return trips for more people, the vehicles would make the approximately 12- to 15-minute trip until all staff and visitors were relocated.~~
- ~~If the maximum 640 615 people were on site and were to be relocated, between buses, vans and personal vehicles, it is estimated that 150 people could be relocated in each trip. Round trip from the Salvation Army Divisional Camp site to the United Methodist Church and back takes approximately 12~~

to 15 minutes under normal conditions. At that rate, the Camp staff, visitors and campers could be relocated within approximately 1 hour.

- Persons relocated to the Church would be temporarily housed at the Church until they could return to the Camp or were relocated to their respective homes outside the area at risk.

Mussey Grade Road Evacuation Analysis

In response to comments on the Draft EIR, the following assessment of the potential impacts of the proposed project's traffic on Mussey Grade Road under evacuation conditions, as might be expected as a result of a wildfire like the Cedar Fire in 2003.

Methodology

To assess the roadway operations both pre-and-post project under evacuation conditions, the first step was to calculate the potential traffic on the roadway. A peak hour number was used, since the evacuation is assumed to occur over a one-hour period.

Next, the theoretical capacity of a one-lane roadway was needed. There are no "look-up" tables for one-lane roadways in the County's published roadway capacities. The Highway Capacity Manual (HCM) was reviewed for both arterial and 2-lane highways to determine an appropriate capacity.

Finally, the analysis consisted of traffic volumes with and without the project measured against the one-lane roadway capacity. Again, no published significance criteria exist to determine if the project would have a significant impact.

Volumes

A 24-hour road tube count was done on Mussey Grade Road both north and south of Dos Picos Park Road on a weekday in June 2004. This traffic count captured the two-way traffic on Mussey Grade Road for 24-hours. The vast majority of traffic was generated by residential trips in the area, although some campsite activity was likely occurring. The highest count was 3,240 trips, which occurred north of Dos Picos Park.

The residences in the area were assumed to be on 1-acre or larger lots. SANDAG published rate of 12 trips/acre was used for these "estate" lots. Not accounting for the small usage assumed at Dos Picos Park on the count date, the number of lots using Mussey Grade Road is roughly calculated by dividing the total ADT by the number of trips per estate lot. This calculation is 3,240 ADT/12 trips per lot, or about 270 lots.

The analysis assumed that all vehicles on a site will be driven, if possible, during an evacuation. Thus, a family of four with three cars will not typically evacuate in one car if there are other drivers in the group. The analysis assumed that for the 270 lots, each lot would have, on average, three drivers and three cars. Thus, 810 vehicles (270 units 3 cars & drivers/lot) could be expected to leave at once during an evacuation.

The project is calculated to add a maximum of 275 ADT to Mussey Grade Road, or about 140 one-way trips. This calculation assumes that there are both campers and retreat guests on-site (Full camp capacity).

~~The project's evacuation plan would provide for 2 busses on-site to evacuate the campers (2 one-way trips). This evacuation scenario (no retreat guests and bussing of campers) would require many fewer trips than the 140 trips referenced from the traffic study trip generation.~~

~~In summary, the volumes calculated without the project are 810 trips and with the project are 950 trips.~~

~~Capacity~~

~~With the volumes established, it was then necessary to establish an appropriate peak hour capacity for one-lane of Mussey Grade Road to complete the analysis. The County typically conducts segment analyses for two directions of traffic on a 24-hour basis (i.e. 16,200 ADT = LOS F). Since the analysis was based on a peak hour volume in one lane, a different approach was required.~~

~~Several sections of the nationally accepted Highway Capacity Manual (HCM) were reviewed for information. The published HCM is the basis of the majority of the methodology used in signalized/unsignalized intersection calculations, arterial analyses, freeway analysis and two-lane highway calculations.~~

~~A commonly accepted hourly capacity for a single two-lane highway lane is 1,700-passenger cars/hour (pc/h). This is confirmed in the HCM. For the purposes of this analysis, Mussey Grade Road is considered to exhibit characteristics more similar to a 2-lane highway than an urban arterial. The latter carries higher volumes and has signalized cross streets. There are relatively few driveways and intersections along Mussey Grade Road as compared to a typical urban two-lane County roadway. Also, roadway "friction" in terms of opposing vehicles (i.e. southbound vehicles) under evacuation scenarios will be minimal with all outbound traffic heading northbound in one lane. However, given the narrower lanes and lack of shoulder as compared to a proper 2-lane highway, the two-lane highway lane capacity was reduced by 20%, resulting in an hourly, per-lane capacity of 1,360 pc/h.~~

~~Summary~~

~~The peak hour evacuation volumes calculated for Mussey Grade Road are 810 pc/h without the project, and 950 pc/h with the project. The hourly capacity of the road is conservatively estimated at 1,360 pc/h, with factors such as narrow lanes and lack of shoulders accounted for. Thus, the expected volumes are within the capacity either without or with the project. When the retreat at the project site is not operating (when it is not occupied), the project volumes are much less, since two busses will be on-site at all times for evacuation purposes.~~

~~The evacuation of Mussey Grade Road and other similar roads in the County rely on the expeditious movement of traffic from the minor street to the major street. That is, if traffic congestion on SR-67 precludes the movement of vehicles from Mussey Grade Road on to SR-67, then capacity may be reduced below what is presented in this analysis. emergency personnel would be responsible for directing traffic at key intersections, such as SR-67/Mussey Grade Road, during an emergency so that an orderly and expeditious evacuation flow could occur.~~

~~Finally, if the evacuation period lasts longer than one hour (as assumed in this analysis), the volumes calculated for Mussey Grade Road may be much less on a per hour basis.~~

Sheltering-in-Place

If relocation /camp evacuation is not an option as determined by fire personnel or the Fire Safety Coordinator, ~~Camp administrators~~, the Camp will implement the shelter-in-place alternative.

As detailed in the FPP, the project features including site-specific fuel modification zones, enhanced ignition-resistant construction, interior sprinklers, and infrastructure improvements are designed to provide safe areas for sheltering during a wild fire.

The proposed multipurpose building (Figure 1-8) has been identified as a large-capacity building that will be used for shelter in place. The building offers 19,500 square feet of interior space, which could easily accommodate the maximum 615 ~~641~~ persons that may be on site under Reduced Project Alternative I. The structure could accommodate up to 1,300 persons according to the California Building Code. As such, residents from the Mussey Grade Road area could relocate to this structure during a fire emergency. Although the preferred shelter-in-place scenario includes temporarily housing all persons in the multipurpose building, all of the site's structures will be built to the same standards and have fuel modification areas and could be used for temporary shelter in an extreme situation.

The RFD will inspect the fuel modification areas, construction features, fire protection systems, and infrastructure to ensure that they meet the requirements specified in the FPP. Therefore, the shelter-in-place option will be available at all times.

~~Same Practical Effect for Non-Conforming Secondary Access~~ 2009 Consolidated Fire Code

The Consolidated Fire Code became effective November 13, 2009. Section 96.1.503.1.2 of the Consolidated Fire Code includes maximum dead-end road lengths. The proposed project does not comply with the applicable maximum dead-end road length. If secondary access was feasible for the project site, then the project could meet this provision of the Code. As explained below, the provision of secondary access for the project site is not feasible.

However, Section 96.1.APP.104.8 allows the fire code official to grant modifications to the code provisions. The Ramona Fire Chief approved the FPP for the proposed project and granted a modification to maximum dead-end road requirement (Steve Delgadillo, 10/1/02). The FPP includes a redundant layer of protection methods that have proven to reduce risks due to wildfires. The proposed project would significantly increase fire safety compared to the existing site conditions and includes, but is not limited to, the following measures:

- An Evacuation and Fire Safety Plan (including buses and vans);
- A Shelter-in-Place (SIP) Facility, the multipurpose building, for use during wildfire emergencies to be used in the event that a safe evacuation is not feasible;
- Customized fuel modification zones around all structures with a minimum two times and up to 20 times the width of predicted flame lengths heights (minimum of 100 feet to a maximum of 330 feet);

- All structures will be constructed pursuant to the latest building codes including ignition-resistant construction materials and interior sprinklers;
- Improved water availability and fire flow for the camp and throughout the Mussey Grade area by constructing a 650,000-gallon public water tank on site (expandable to 800,000 gallons) and associated water pipelines and fire hydrants;
- Improved fire department access (i.e., internal road widening and paving);
- manually-activated, facility-wide emergency alarm system audible throughout the camp;
- Swimming pools fitted with dry hydrant or a diesel powered portable fire fighting pump for additional fire fighting supply;
- Maintaining two large-capacity buses on-site for relocation of campers; and,
- Employing a Fire Safety Coordinator to work with Ramona Fire Department to ensure FPP measures are implemented and maintained.

~~In a December 19, 2007 letter, the RMWD "reaffirmed its previous position that a condition of approval of the expansion of the Salvation Army Camp be the acquisition and development of a secondary access for ingress and egress from the Camp." The County believes that a secondary access is not possible due to practical difficulties, and there are several reasons why the County is under no obligation to require a secondary access as a condition of the Major Use Permit.~~

~~First, although County Fire Code section 96.1.503.1.2 (effective January 30, 2008) requires the proposed project to have a secondary emergency access, Appendix Chapter 1, section 104.8 of the code allows modifications of the code requirements for individual projects under certain circumstances.~~

~~Ralph Steinhoff, Fire Services Coordinator of the County Department of Planning and Land Use (DPLU) reviewed the fire risk analysis for the proposed project and the fire protection plan as described in EIR sections 2.3.3.1 and 2.3.3.2 above. Mr. Steinhoff found that construction of a secondary access would be impractical as explained in section 2.3.3.2 "Secondary Emergency Access Road."~~

~~In addition, Mr. Steinhoff determined that due to various project features (busses on site for relocation, ignition resistant construction materials, fuel modification around buildings, water tank on site, shelter-in-place facility, improved primary access, etc) the lack of a secondary access would comply with the intent and purpose of the code and would not lessen health, life and safety requirements.~~

~~Mr. Steinhoff has extensive experience in wildland and structural fire control, Incident Command, incident recovery and community fire defenses planning. He has more than 35 years of experience and accomplishments in the fire service. His career includes eight years as a company officer and 16 years as a chief officer eventually retiring from the North County Fire Protection District with the rank of Deputy Chief. He holds a Bachelor of Science from the University of Redlands and an Associate in Science, Fire Science, from Miramar College. He is a California State Certified Fire Officer, Chief Officer and Fire~~

Marshal. He is a former "Fire Prevention Officer of the Year" for the San Diego County Fire Prevention Officers Association.

Second, the project site is located in a State Responsibility Area (SRA) and, therefore, the fire regulations in California Code of Regulations, title 14, section 1270 and following apply. The proposed project does not comply with the maximum length of dead-end roads specified in 14 CCR section 1273.09. However, 14 CCR section 1270.07 authorizes exceptions to these regulations if the exception provides the same "overall practical effect as the regulations towards providing defensible space." Mr. Steinhoff determined that the following project features would meet the "same overall practical effect" standard:

- On-site roads meet the 24-feet-wide unobstructed criteria (except where avoiding sensitive biological resources) surfaces are asphalt except where all-weather decomposed granite is proposed, multiple fire apparatus turnarounds are provided and dead-end roads and cul-de-sacs are consistent with the Consolidated Fire Code. The requirements of the Consolidated Fire Code are more restrictive than the State Fire Code.
- Vegetation clearance is proposed that exceeds twice the calculated flame length and in some cases exceeds twenty times the calculated flame length.
- All new buildings must meet the County's ignition-resistant exterior construction standards, which exceed state building code standards for wildfire areas.
- All new buildings will have fire sprinkler systems providing safety for occupants and reducing the potential for structural fires to spread to vegetation. Generally, the sprinklers are plumbed so that if one triggers, it will trigger a series of them in the same area, but not all of the sprinklers in the structure.
- Water system enhancements, including dramatically improved water availability, fire flow, water pressure throughout Mussey Grade Road and better access to fire hydrants throughout the Salvation Army site, will significantly improve the capability to fight fires on site and in the lower portion of Mussey Grade Road.
- People on site will be in a structured environment that has responsible leadership (counselors and group leaders), state-mandated fire orientation at the beginning of each session, a site-wide fire alarm system, and prescribed fire action plan.
- Vehicles will be kept on site to relocate people from the site in a fire emergency as described in the FPP.
- If relocation is not feasible, the multipurpose building on site will provide a "shelter-in-place" structure that will be protected by extensive vegetation clearing, ignition resistant construction materials, and fire sprinklers. This structure will have sufficient capacity to accommodate off-site residents from Mussey Grade Road who might not be able to evacuate, in addition to the people on site.

Third, under the County's land use authority, the County decides whether to issue a Major Use Permit and what conditions to include in the permit. Article XI, section 7 of the State Constitution grants broad police powers to cities and counties. "The courts have liberally construed this grant of police power to counties

~~and cities, in the field of land use regulations" Longtin, California Land Use, (2nd ed. 1987), p. 43). Consistent with this broad grant of constitutional authority, Government Code section 65800 states that the legislature intends "to provide only a minimum of limitation in order that counties and cities may exercise the maximum degree of control over local zoning matters."~~

~~Ordinances that authorize the issuance of conditional use permits are a common means of exercising the police power in the land use area [O'Hagen v. Board of Zoning Adjustment 19 Cal.App.3d 151, 158 (1971)]. Accordingly, County Zoning Ordinance section 7350 and following authorize the County to issue Major Use Permits. In approving these permits, the County may impose conditions that it determines are necessary (Zoning Ord. § 7362). Neither the Zoning Ordinance nor any other law requires the County to impose conditions that a fire district, or any other district, believes are necessary for a particular project. The authority to issue a Major Use Permit and to decide what conditions to include in the permit rests solely with the County. As explained above, the County has determined that a secondary access is not necessary.~~

~~Lastly, it should be noted that on September 28, 2004, Steve Deladago, the Fire Marshal for RMWD, reviewed and approved the evacuation and safety plan for the proposed project without requiring a secondary emergency access. In addition, on April 26, 2002, Kenneth Miller, Unit Chief, California Department of Forestry and Fire Protection, reviewed and approved the same plan for the proposed project without requiring a secondary emergency access. A copy of these approvals is attached in Appendix K.~~

~~The mitigation measures provided in the FPP are designed to provide the *same practical effect* that a secondary access would provide. A secondary access would address concerns about fire or traffic blocked resident egress and delayed or denied firefighter ingress. As such, the measures provided in the CFPP include shelter in place construction, fuel modification standards, landscape plan reviews and approvals, and annual landscape inspections and enforcement. When sufficient relocation time is not available, the Camp will provide shelter in place in a large multipurpose building that can accommodate up to 1,300 people. Shelter in place will be an alternative to relocation (evacuation), but on this site, will be an option for campers, staff, visitors and local residents. These measures achieve *same practical effect toward providing defensible space*. These measures are proven to reduce fire spread, reduce radiant heat from burning landscaping, reduce the likelihood that fire will reach structures and minimize risk to persons from interior fire, thereby, providing a place on site to shelter rather than evacuating via Mussey Grade Road or a secondary access.~~

Secondary Emergency Access Road

~~The RMWD Board, at its meeting on November 13, 2007, reaffirmed its position that a secondary access road be required as a condition of approval of the Major Use Permit. The secondary access road would be required to~~ If secondary access were provided, it would connect ~~from~~ the Salvation Army camp to either Dos Picos Park Road or SR-67. The purpose of this secondary access road would be to provide an additional access to and from the camp, thereby alleviating the potential traffic load on Mussey Grade Road in the event of a wildfire emergency and evacuation of the camp. Residents on Mussey Grade Road have identified the project's potential impact on Mussey Grade Road in the event of a wildfire

emergency as an issue associated with the project. ~~However, as discussed in the FPP (EIR Appendix J) and preceding text, provision of a secondary emergency access road has been determined to not be necessary, as the *same practical effect* of providing a secondary emergency access road will be achieved through implementation of the measures identified in the FPP. These measures are proven to reduce the fire spread, reduce radiant heat from burning landscaping, reduce the likelihood that fire will reach structures and minimize risk to persons from interior fire, thereby, providing a place on-site to shelter rather than evacuating via Mussey Grade Road or a secondary access. Furthermore,~~ The provision of a secondary emergency access road is infeasible due to the various engineering, environmental, land use, ownership, and cost constraints involved with construction of any of the potential roadway alignments through this highly constrained area. Primary constraints include the presence of very steep topography (often exceeding 50% slopes), as well as sensitive biological resources. Constraints also include land use policies and ordinances (e.g. the County's Resource Protection Ordinance), ownership patterns, constraints, and engineering, construction, and mitigation costs.

In order to provide a connection to Dos Picos Park Road or SR-67, the secondary access road would need to extend either north, or northwesterly from the project site. Direct access to the south would not achieve the goal of connecting to Dos Picos Park Road or SR-67. Direct access to the west is prohibited by steep slopes exceeding 50%, the presence of MHPA preserve lands, and the Iron Mountain Golden Eagle nest site (impacts within 4,000 feet of a golden eagle nest site are not allowed under the MSCP (species-specific conditions of coverage) and the BMO Section 86.507(a)(2)(a)). As such, two possible routes for the provision of emergency access from the Camp have been identified and analyzed in greater detail: (1) a northerly route that would extend across the Golden Eagle Horse Ranch to Dos Picos Park Road; and, (2) a northwesterly route that would extend to SR-67. Figures 2.3-2~~1~~ and 2.3-3~~2~~ depict the conceptual alignments of each of these routes, respectively. Figure 2.3-4~~3~~ depicts the steep slope categories and the location of U.S.G.S. Blueline streams, all of which are likely subject to regulation by the County, the California Department of Fish and Game, and the U.S. Army Corps of Engineers. It should be noted that no formal jurisdictional wetland delineation has been performed for streams identified off-site. Figure 2.3-5~~4~~ depicts the parcel ownership pattern in the area. Figure 2.3-6~~5~~ depicts the general biological constraints (MHPA lands, golden eagle nest buffer). Figure 2.3-7~~6~~ depicts the vegetation communities that would be impacted by either roadway alignment.

For either route, the road is assumed to consist of a 24-foot wide road within a 26-foot wide graded easement. Surfacing would be as required by the County of San Diego - decomposed granite or asphaltic cement depending on the slope. Manufactured slopes would be at a slope ratio of 2:1 horizontal to vertical. It has also been assumed that wetland crossings (e.g., jurisdictional drainages) will require clear-span bridges, as they would otherwise not be permitted by the County and/or regulatory agencies such as the U.S. Army Corps of Engineers and the California Regional Water Quality Control Board.

For biological constraints, existing project data and regional Geographic Information Systems (GIS) data were utilized to identify sensitive biological resources that should be avoided and would, therefore, potentially constrain roadway development.

Potential biological constraints include the following:

- County RPO jurisdictional wetlands and wetland buffers;
- Biological Open Space Easements and Multiple Habitat Preserve Areas (MHPA) subject to BMO Attachment G, Preserve Design Criteria;
- Wildlife corridors addressed by BMO Attachment H, Design Criteria for Linkages and Corridors and subject to RPO restrictions on the development of "sensitive habitat lands"; and
- The MSCP-required 4,000-foot avoidance area surrounding any golden eagle (*Aquila chrysaetos*) nest.

Northerly Route across the Golden Eagle Horse Ranch to Dos Picos Park Road

Engineering Constraints

The conceptual northerly route that would extend across the Golden Eagle Horse Ranch to Dos Picos Park would be approximately 6,000 feet, or 1.13 miles in length (See Figure 2.3-2~~1~~). The offsite portion would be approximately 3,600 feet (0.7 miles) in length. This route would be of limited value in meeting the RMWD Board's stated purpose of a secondary emergency access road, because it would connect the camp to Dos Picos Park Road, which is a dead-end street located off of Mussey Grade Road and it would not connect to SR-67. Therefore, vehicles exiting the camp would still need to use Mussey Grade Road (via Dos Picos Park Road) in order to evacuate the area. There is a private driveway leading from Dos Picos Park into the hills to the west, but there is no easement that allows public access through this area. Construction of this access road would require grading of steep slope areas that exceed 50%, and therefore would not be consistent with the County's RPO regarding the protection of steep slopes. Furthermore, in association with the West Fork of San Vicente Creek, in the project's north and northwest, a local wildlife corridor has been identified. This corridor allows for movement from the southeast to the west (and vice versa) into and out of MHPA lands. Building a secondary access road to the north to connect to Dos Pico Park Road would bisect the wildlife corridor. Construction of a northern secondary access road, impacting the wildlife corridor, would be prohibited under the RPO.

Northwesterly Route to SR-67

Engineering Constraints

The northwesterly route connecting to SR-67 would be approximately 14,500 or 2.75 miles in length (see Figure 2.3-3~~2~~). The offsite portion would be approximately 11,200 feet or 2.12 miles in length.

The alignment shown would conform to the terrain as much as possible; however, at least 6,700 lineal feet (nearly half of the road's length) would traverse land with a natural slope exceeding 50% due to the predominance of steep slopes in the area (see Figure 2.3-3). Only approximately 4,800 lineal feet, (about one third of the road) would traverse land with a natural slope less than 25%; however, this grade is too steep for emergency vehicles.

Cost

The estimated engineering and construction cost for the northwesterly route to Highway 67 is approximately 6.3 million dollars. Again, this estimate does not include easement (right of way) acquisition or environmental mitigation. The cost estimates are based on general conditions, contingency, design and permit processing.

Biological/County Ordinance Constraints

Access directly to the west is constrained by Iron Mountain/MHPA lands. Land uses allowed within MHPA lands/the MSCP preserve do not include roads related to private property access, only public infrastructure. Therefore, the secondary access road would not be allowed to traverse these lands. Construction of this road would require crossing at least four, and possibly five U.S.G.S. "blueline" streams as mapped by the U.S.G.S. These streams are likely considered RPO wetlands.

Construction of this secondary access road would result in the disturbance of approximately 29.32 acres of land, with 97% of it sensitive habitat. This road would be located within 1,700 feet of the Iron Mountain golden eagle nest site. Development within 4,000 feet of a golden eagle next site is not allowed under the MSCP (species-specific conditions of coverage) and the BMO Sec 86.507(a)(2)(a).

Ownership

This roadway alignment would traverse at least 12 and possibly as many as 14 properties including the following Assessor's Parcels: 278-391-04, 278-391-05, 278-391-07, 278-391-09, 278-391-10, 278-391-11, 278-392-04, 278-270-16, 322-020-07, 322-020-08, 322-020-09, 322-020-10, 322-020-11, and 322-030-09. Easements would need to be obtained, or right of way purchased from each of these property owners.

In conclusion, provision of a secondary access route to the north or northwest is not feasible due to the significant engineering, construction, and mitigation costs, as well as the fact that easements would have to be obtained on as many as 14 properties.

2.3.4 Mitigation Measures

MM 2.3.a Removal of the two above-ground fuel storage tanks shall comply with all applicable federal, state and local regulations. Any necessary permits shall be obtained prior to removal and relocation. An amendment to the Business Plan shall be approved prior to relocation of the above-ground storage tanks. An Environmental Site Assessment (ESA) will be performed to test for potential soil contamination from the tanks in the existing maintenance yard. The Salvation Army will follow all recommended remediation measures outlined in the ESA. In addition, the Salvation Army will consult with the Ramona Fire Department prior to relocating the tanks for appropriate approval of the new tank location (pers. comm., Delgadillo, S. Ramona Fire Department, April 2000). The new tank location shall be limited to existing developed areas within the project site. The relocated tanks shall be UL-2085 tanks as required by code.

MM 2.3.b The Fire Protection measures and requirements, as identified in the Salvation Army Divisional Camp Fire Protection Plan (Dudek, January 2010~~October 2009 April 2008~~) shall be

implemented.

~~MM 2.3.b~~ ~~The following conditions shall be included in the Major Use Permit to mitigate for Hazards and Public Safety impacts related to potential fires in the project area.~~

- ~~The Ramona Fire Department determined that a 260,000-gallon water tank at an elevation of approximately 1,665 MSL with a ten-inch on-site water line that connects to the existing six-inch water main in Mussey Grade Road will meet fire flow requirements for the project and will also enhance the flow capacity to fight future fires in the project area. Prior to issuance of building permits, the applicant shall submit to the County, plans approved by the Ramona Municipal Water District Engineering Department for a water system capable of handling the fire flow requirements for the project (existing and proposed buildings).~~
- ~~Prior to the issuance of building permits the appropriate number of fire hydrants and their specific locations, approved by the Ramona Fire Department, will be identified and constructed.~~
- ~~Automatic sprinklers shall be installed in all existing and new buildings, consistent with the Ramona Fire Code Ordinance 99-199. This shall be determined after the water system plans are approved.~~
- ~~All on-site roads shall be improved to a minimum 24-foot width with paved surfacing, with the exception of those designated as "existing access road to remain, road not to be paved," (item #4), and "existing road width to remain, road to be paved," as shown on the "Fire Marshal Exhibit: Proposed Site Plan," dated 1/15/02, and revised 4/18/02 and 5/1/02 (Appendix H).~~
- ~~A lighted map directory shall be provided at every intersection within the proposed project denoting, with numbers, the areas on-site that the particular road leads to.~~
- ~~"No Parking Fire Lane" signs shall be posted on all roads that have the fire department required width of 24 feet. The number of signs and their placement shall be determined by the Ramona Fire Department.~~
- ~~A fuel modification zone a minimum of 100 feet in width will be provided around the entire perimeter of each building site, as depicted on the site plan, consistent with Ramona Fire Code Ordinance 99-199.~~
- ~~A ten-foot wide fuel modification zone shall occur along each side of all fire access roadways.~~
- ~~The following exceptions to the fuel modification requirements above are granted per the Fire Code:~~
  - ~~Single specimens of trees, ornamental shrubbery or similar plants used as ground covers, provided that they do not form a means of rapidly transmitting fire from the native growth to any structure.~~
  - ~~Grass and other vegetation located more than 30 feet from buildings or structures and less than 18 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.~~

- With the approval of the fire authority having jurisdiction, the width of the fuel modification zone may be reduced where fire-resistive structures or other features are constructed. However, in no case shall the fuel modification zone be reduced to less than 30 feet.

- Prior to issuance of building permits, a fire alarm system shall be provided.
- A response map update in a format compatible with current department mapping shall be provided, as specified in the Ramona Fire Code Ordinance 99-199.
- The Salvation Army shall, at all times, have two large capacity school buses with drivers or other equivalent vans or buses on the premises at all times when children are attending camp.
- The Salvation Army shall conduct a fire drill the first day of every camp period.
- The Ramona Fire Department has agreed to, and shall observe an annual fire evacuation/fire drill exercise to ensure proper safety measures have been implemented. After this annual observation and review, the fire department may require more than two large capacity school buses with drivers to be available at the camp for evacuation purposes. To protect family or adult campers who were transported to the camp by bus or van, the Ramona Fire Department may also require one or more additional buses with drivers to be available to evacuate the campers or may require other protective measures.
- The yurts will have skirting installed in a manner similar to skirting on trailer or mobile homes.

2.3.5 Conclusions

Proper removal and relocation of the two above-ground storage tanks according to all applicable federal, state, and local regulations would reduce the possibility of accidental leaks or spills during this process. Implementation of this mitigation measure substantially lessens the effect because the applicants will follow all applicable federal, state, and local regulations in addition to the recommended remediation measures outlined in the ESA. The applicants will consult with the RMWD Fire Services Division regarding the appropriate location for the new tanks. The new tanks will be located in existing developed areas within the project site, and the new tanks are required to be UL-2085 tanks as required by code. This mitigation measure will reduce the impact to a less than significant level. Mitigation measures for fire, as identified in the FPP (Dudek, 2008, EIR Appendix I) will be implemented as a condition of the MUP and will protect the Salvation Army Divisional Camp's buildings, employees and guests from the threat of wildland fires. Incorporation of the mitigation measures identified above would reduce potential hazards/public safety impacts involving the removal and relocation of the above-ground storage tanks and involving threats due to fire to below a level of significance.

The recommendations provided in the FPP have been designed specifically for the proposed construction of structures adjacent the Wildland Urban Interface zone at the Salvation Army Divisional Camp project site. The project site's fire protection system includes a redundant layering of protection features that have been shown through post-fire damage assessments to reduce risk. For wildfire emergencies, the first and

~~preferred alternative will be relocation from the site. This will be accomplished by high-capacity buses that will be stationed onsite at all times campers are present. Relocation will be the first alternative for Salvation Army but will be implemented through camp administrator's consultation with RMWD or other fire officials to minimize the likelihood that campers or staff would be exposed to high risk during the relocation process.~~

Fire safety requirements identified in the FPP (Dudek, 2010~~2009~~, EIR Appendix I) will be implemented and will protect the Salvation Army Divisional Camp's buildings, employees and guests (and area residents) from the threat of wildland fires. As described in the FPP, the Proposed Project's fire protection system includes protection methods that have proven to reduce exposure ~~to~~of people and property to fire hazards to a less than significant level. The proposed project would significantly increase fire safety compared to the existing site conditions. The combined fire protection system includes but is not limited to the following measures:

- An Evacuation and Fire Safety Plan

The Salvation Army Camp currently maintains, and will continue to implement, its Emergency Response Procedures; as modified by the FPP. The emergency response procedures document has been accepted by RMWD Fire Services and is signed by the Fire Marshal. These procedures will be updated to include the relocation and shelter in place contingency protocols outlined in the FPP.

The evacuation plan states that in the event of wildfire, early relocation is the preferred plan, assuming that sufficient time is available to relocate visitors and staff from the project site without impacting Mussey Grade Road. Relocation will occur based on certain trigger thresholds. Specifically, camp retreat relocation will occur when a wildfire is moving toward the Ramona area or when weather conditions indicate that a fire may move toward Ramona and it can be confirmed there are at least 3 hours available for evacuation. If there are fewer than 3 hours available, the Fire Safety Coordinator will assess the condition of Mussey Grade Road. If the road is open and flowing freely, evacuation may be implemented. If the road is not flowing freely, shelter-in-place will be implemented. In no case will evacuations be allowed if there are fewer than 2 hours before wildfire may threaten the camp unless there are 20 or fewer people on site, Mussey Grade is flowing freely and RMWD Fire Services confirms evacuation is allowed.

- Employing a Fire Safety Coordinator to Work with the Ramona Fire Department

A Fire Safety Coordinator will be designated and will be responsible for maintaining and implementing proper fire safety procedures at the Camp. These procedures include annual fire drill/relocation exercises, annual training of camp staff to coincide with the fire relocation drill, compliance with regard to maximum occupancy levels, staff training, site-wide fire safety, fuel modification zone maintenance, and other fire risk reduction measures. The Fire Safety Coordinator will be in charge of consulting with the RMWD Fire Services on when to relocate and when to shelter-in-place.

- A Shelter-in-Place (SIP) Facility, the multipurpose building, for use during wildfire emergencies to be used if safe evacuation is not feasible.

When relocation is not feasible, shelter-in-place will be the alternative. ~~All structures on the site will be constructed to the latest codes, including ignition-resistant exterior walls, roofs, eaves, and vents and~~

~~interior sprinklers. Older structures will be made safer with specific upgrades, such as vent protection and sprinklers.~~ One structure ~~in particular~~ will be designated the site's shelter-in-place facility: a 19,500-square-foot multipurpose building that has ~~will be provided~~ additional ignition-resistant features, communications capabilities, and fuel modification (from six to 20 times as wide as the predicted flame lengths ~~heights~~) and would accommodate up to 1,300 persons. Because this SIP structure would accommodate a substantially higher number of people than are expected onsite at any given time, it would be available to shelter local residents who may need refuge from advancing wildfire. There are also two large open air areas of modified fuels that would be available to emergency first responders such as helicopters, and could be used for staging areas, or other ~~discretionary~~ emergency related uses.

- All structures on-site will be constructed to 2009 Consolidated Fire Code Standards

All structures will include ignition-resistant construction materials and interior sprinklers. Construction pursuant to the latest codes will result in structures being constructed of ignition-resistant exterior walls, roofs, eaves, and vents. Older structures on-site, will be upgraded with interior sprinklers and vent protection.

- Customized fuel modification zones around all structures.

Fuel modification zones would ~~occur~~ be provided throughout the site and would be at minimum 100 feet wide. ~~and range to over 600 feet wide.~~ Portions of the development area that are exposed to the western foothills, where the highest intensity fire and ~~highest~~ longest flame lengths were modeled to occur, would ~~be provided~~ have 175 feet of fuel-modified defensible space (nearly four times the predicted flame lengths) to ~~set back~~ protect the structures from the modeled 45-foot-tall flame lengths. The fuel modification zone will be maintained and inspected annually, removing all dead and dying materials and maintaining appropriate horizontal and vertical spacing. In addition, plants that establish or are introduced to the fuel modification zone that are not on the approved plant list will be removed. The proposed fuel modification zones for the project were designed to meet the County and state requirements where at least twice the fuel modification area is provided for the longest predicted flame lengths.

- Improved water availability and fire flow for the camp and throughout the Mussey Grade area by constructing a 650,000-gallon public water tank on site (expandable to 800,000 gallons).

The RMWD determined water system requirements for the proposed camp expansion. These requirements include the proposed 650,000-gallon water tank (expandable to 800,000 gallons) that would replace the existing 10,000-gallon water tank at the site and supporting infrastructure. The existing 10,000-gallon water tank does not provide a sufficient amount of water storage to fight fires. The proposed 650,000-gallon water tank provides substantially more fire flow capabilities in the project area. The proposed water tank size is larger than needed for the campground alone and would benefit the entire Mussey Grade Road area by providing improved water pressure, water availability, and fire flow. Additionally, the project will construct new water pipelines on the project site and install fire hydrants throughout the campground.

- Improved fire department access (i.e., internal road widening and paving).

The camp is currently served by partially paved roads. Fire access within the project site will be substantially improved by paving to a width of 24 feet (except where constrained by sensitive vegetation). The proposed fire access road (including road width exceptions) was approved by the RMWD. All interior roads will accommodate apparatus, including water tenders. The road improvements include maintaining vertical clearance for vegetation, signing, and lighting.

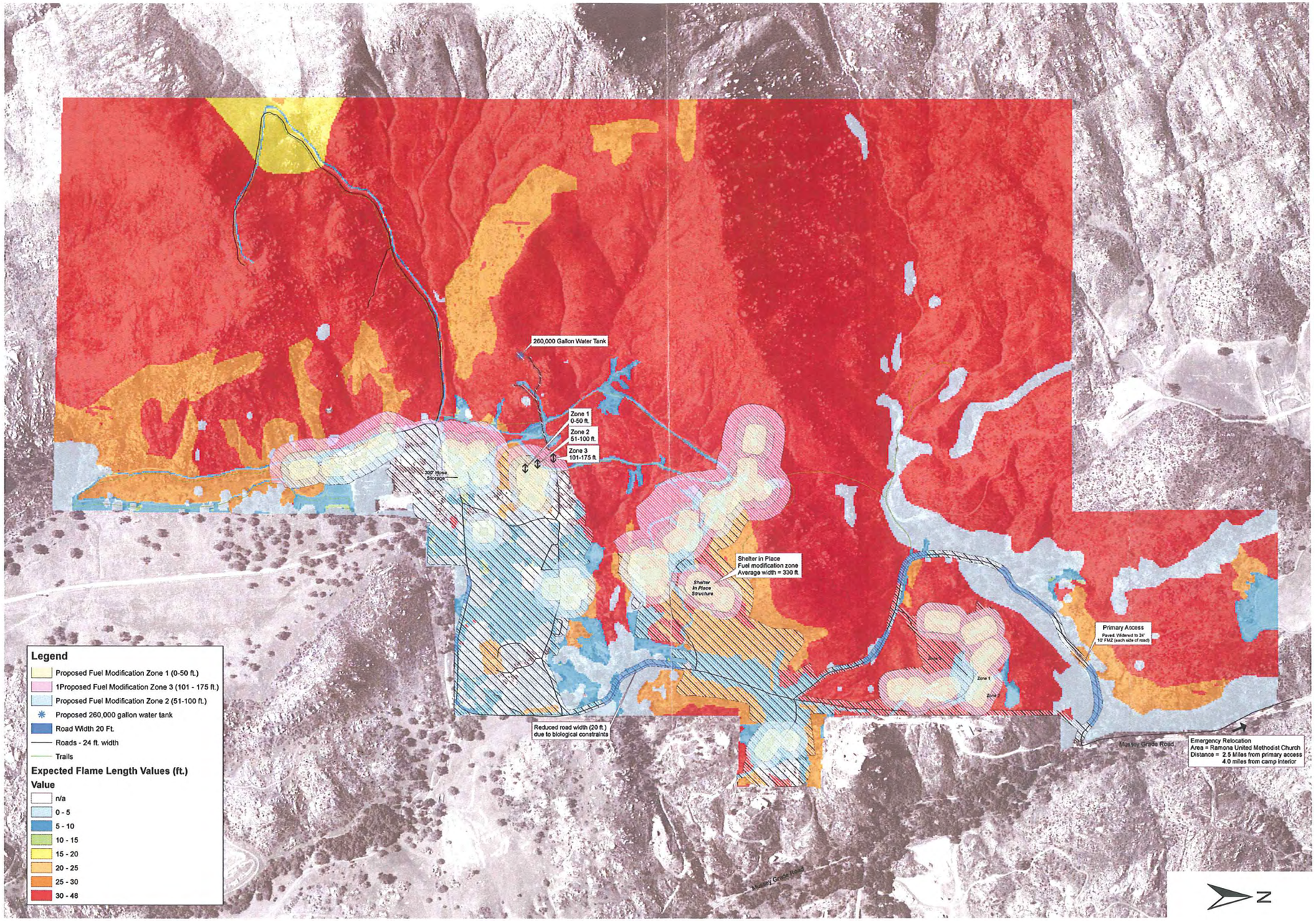
- A Community Facilities District will be Established to fund Fire Prevention Inspection and Maintenance

The project will be required to establish a community facilities district or CFD which will fund ongoing monitoring by RFD staff or equivalent, in order to ensure that the special fire hazard reduction features remain functional. The CFD will be a funding source for the ongoing RMWD Fire Services inspections of the Salvation Army fire protection systems.

In conclusion, the recommendations provided in the FPP have been designed specifically for the construction of structures adjacent the Wildland Urban Interface zone of the Salvation Army Divisional Camp project site. During a wildfire emergency, the first and preferred alternative will be relocation from the site. This will be accomplished by high-capacity buses that will be stationed onsite at all times campers are present. Relocation will be the first alternative for Salvation Army but will be implemented by the Camp's Fire Safety Coordinator in coordination with fire officials, as specified in the FPP, to minimize the likelihood that campers or staff would be exposed to high risk during the wildfires.

The development is designed with the required road improvements (width, paving, etc.) to provide access for emergency personnel. Water availability and flow would be improved with additional fire hydrants throughout the Camp and the ~~260,000-gallon~~ 650,000-gallon tank (expandable to 800,000 gallons) ~~water tank~~ fed by the Ramona Municipal Water District and associated on-site pipeline improvements.

Ultimately, it is the intent of the FPP to have structures that are defensible from wildfire and, in turn, would not represent a significant threat to ignite adjacent native habitat. Implementation of the required enhanced construction features and the fuel modification requirements provided in the FPP will accomplish the goal of reducing the risk associated with this project's location in an area prone to wildfires.



SOURCE: Dudek, 2009

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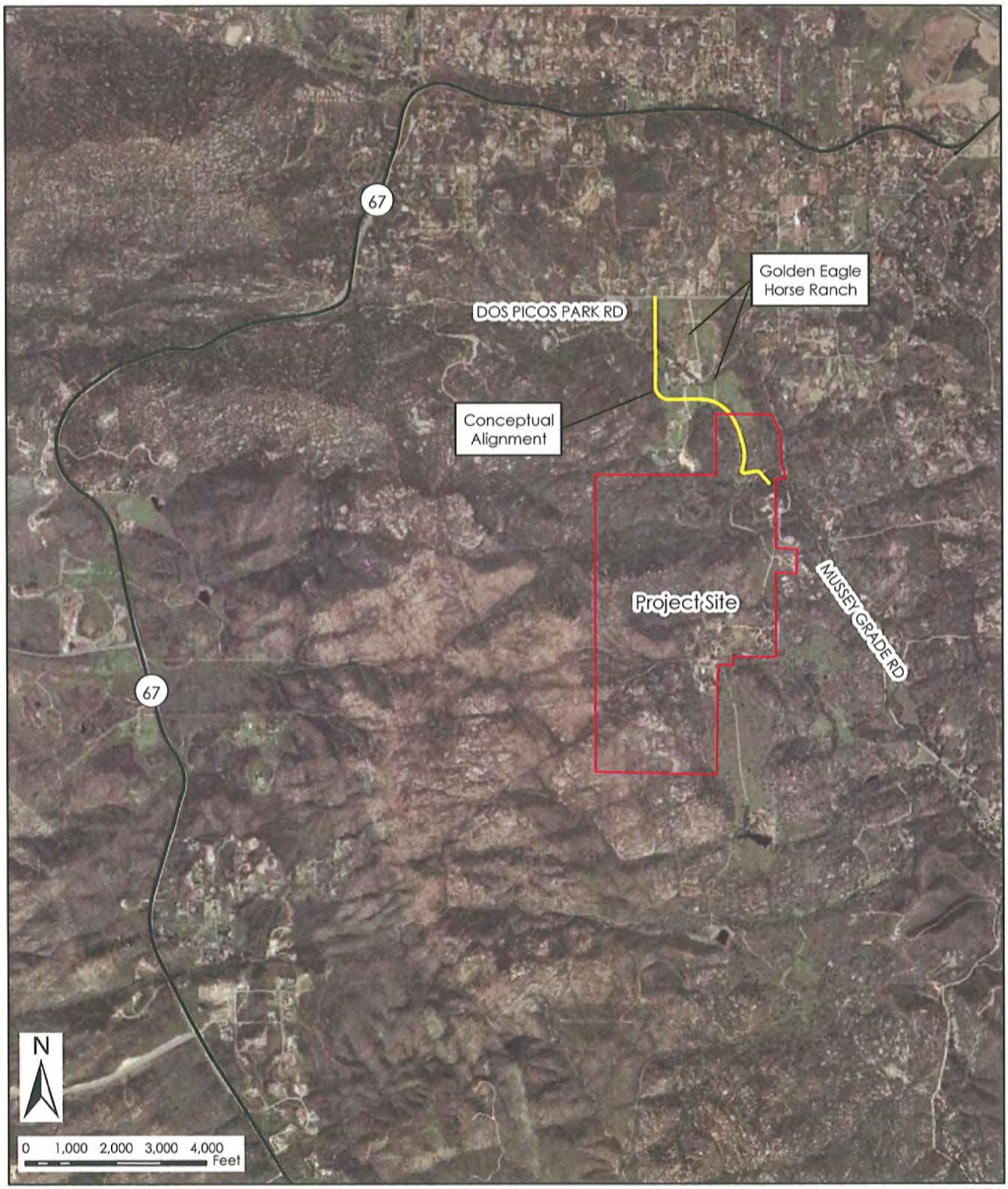
FlameMap Fire Behavior Exhibit

FIGURE
2.3-1

F:\projects\920 Salvation Army\Final EIR 2009\Chapter 2\Section 3\Figure 2.3-1 FlameMap Fire Behavior.ai



SOURCE: Nasland Engineering, 2008; ESRI, 2009; SanGIS, 2009; BRG Consulting, Inc., 2009

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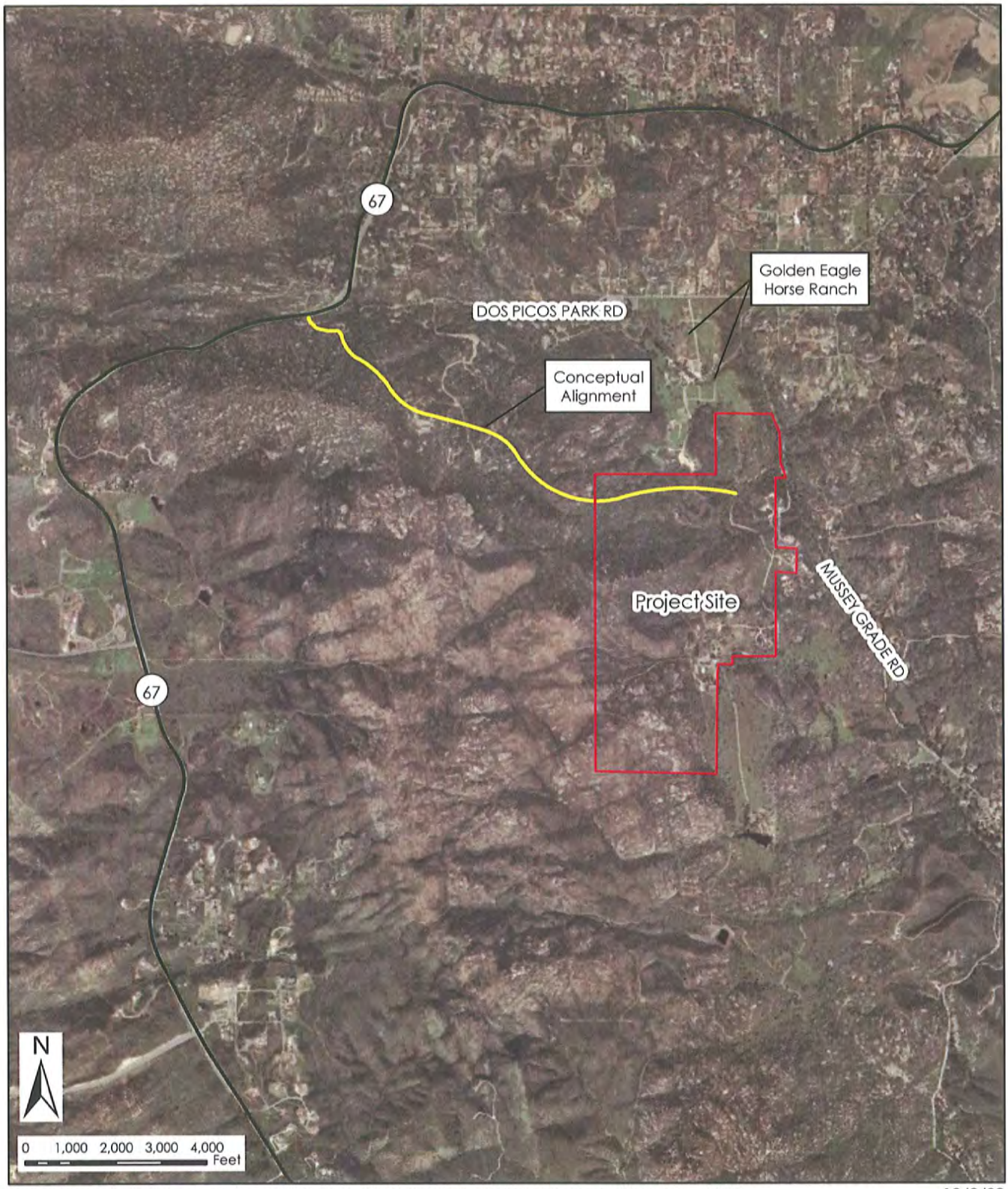
Northerly Route to Dos Picos Park Road - Secondary Access Conceptual Alignment

FIGURE 2.3-2

F:\projects\920 Salvation Army\Final EIR 2009\Chapter 2\Section 3\Figure 2.3-2 North Route to Dos Picos Park Secondary Access.mxd



SOURCE: Nasland Engineering, 2008; ESRI, 2009; SanGIS, 2009; BRG Consulting, Inc., 2009

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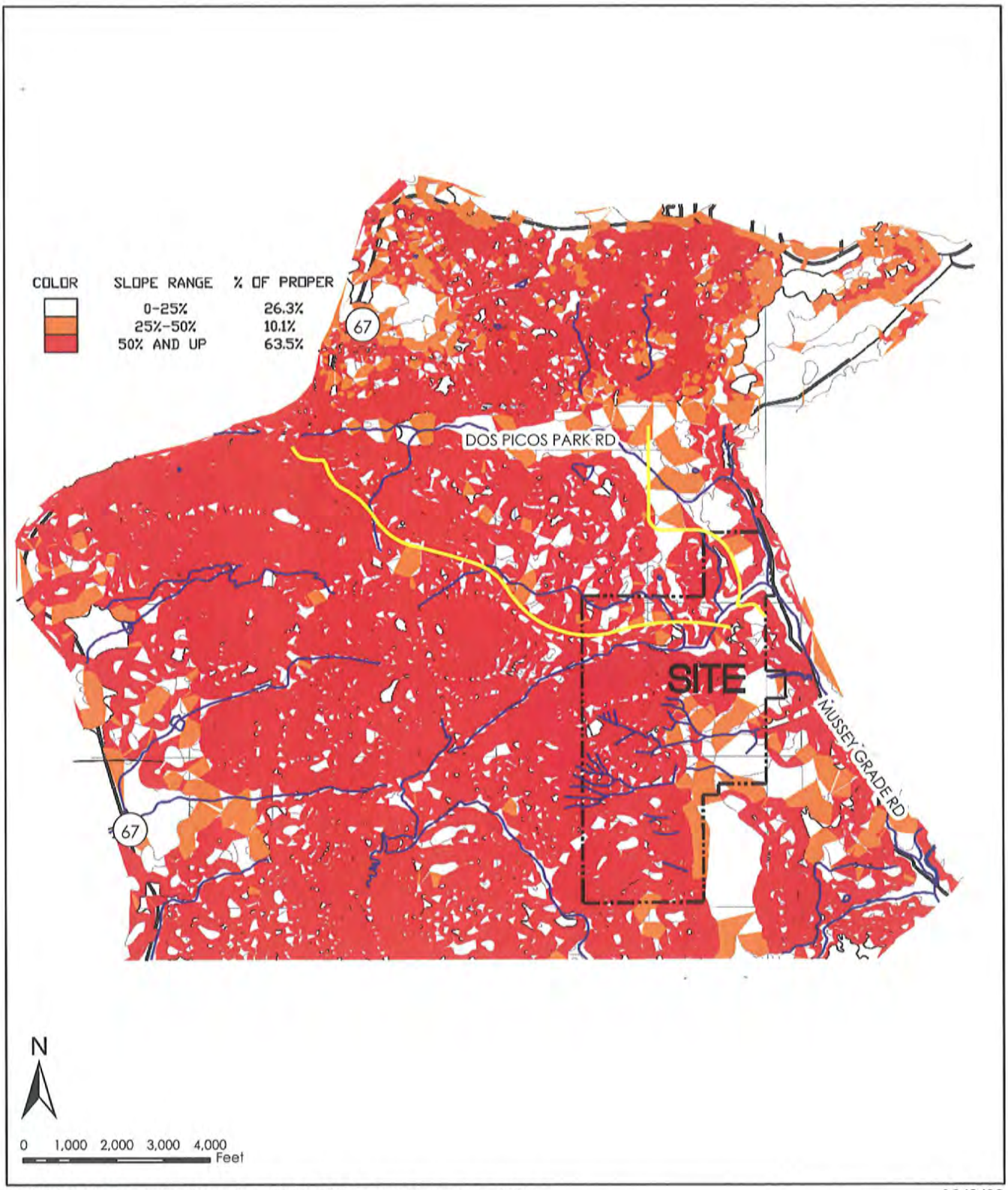
Northwesterly Route to SR-67 - Secondary Access Conceptual Alignment

FIGURE 2.3-3

F:\projects\920 Salvation Army\Final EIR 2009\Chapter 2\Section 3\Figure 2.3-3 Northwesterly Route to SR-67 Secondary Access.mxd



SOURCE: Nasland Engineering, 2008; BRG Consulting, Inc., 2009

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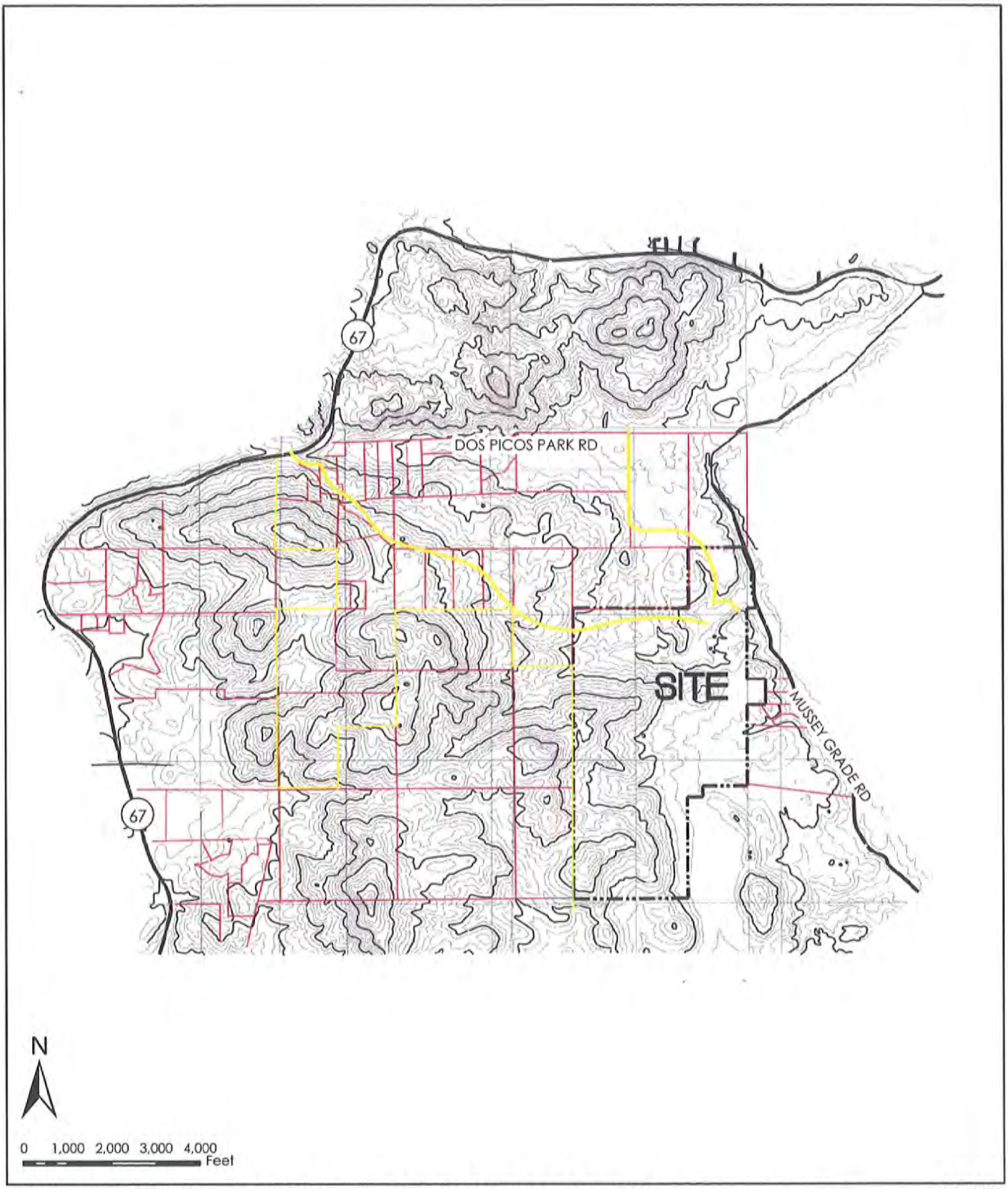
Steep Slopes and Blue Line Streams

FIGURE 2.3-4

F:\projects\920 Salvation Army\Final EIR 2009\Chapter 2\Section 3\Figure 2.3-4 Steep Slopes and Blue Line Streams.mxd



SOURCE: Nasland Engineering, 2008; SanGIS, 2009; BRG Consulting, Inc., 2009

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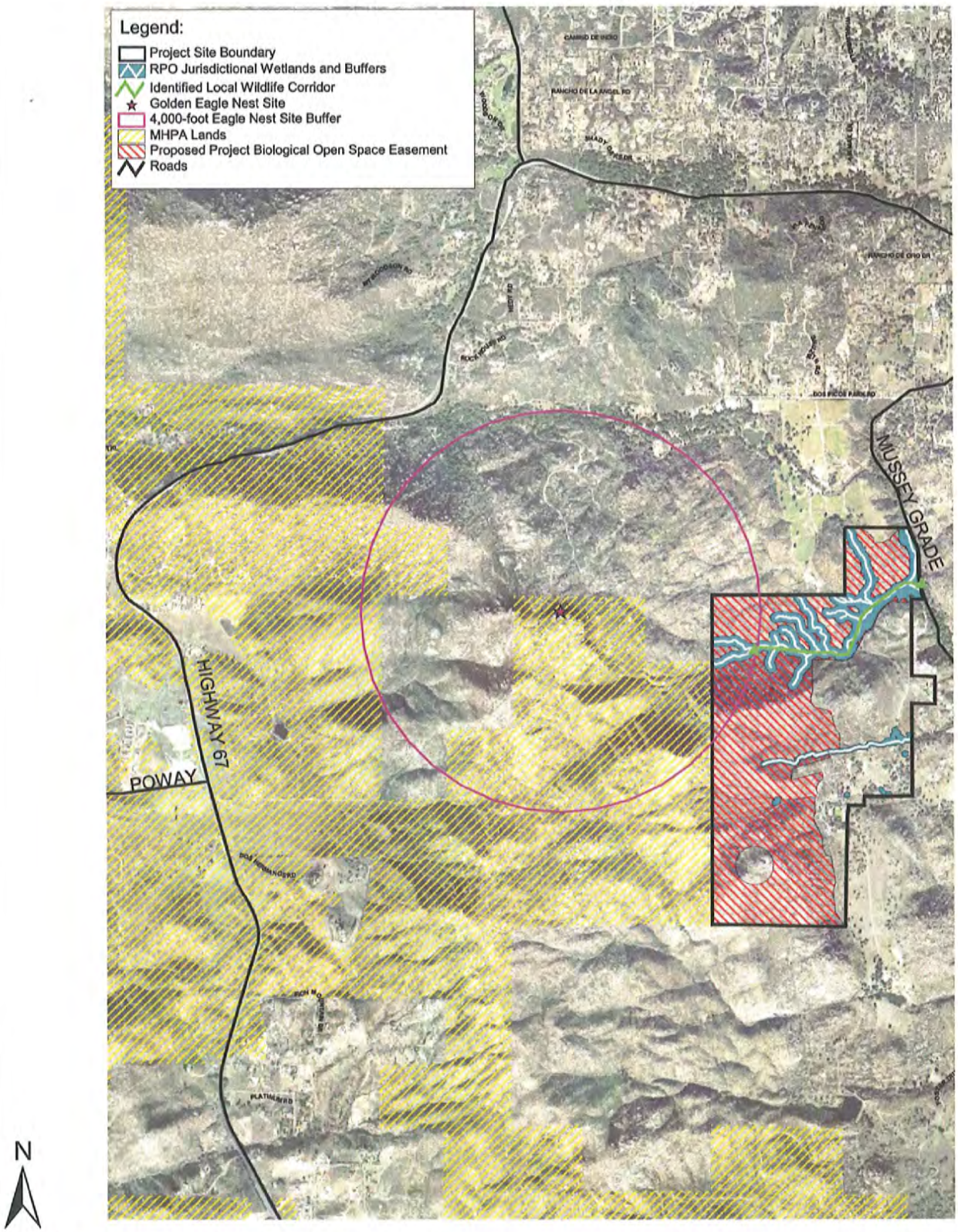
Ownership

FIGURE 2.3-5

F:\projects\920 Salvation Army\Final EIR 2009\Chapter 2\Section 3\Figure 2.3-5 Ownership.mxd



SOURCE: SanGIS, 2007; Merkel & Associates, 2008

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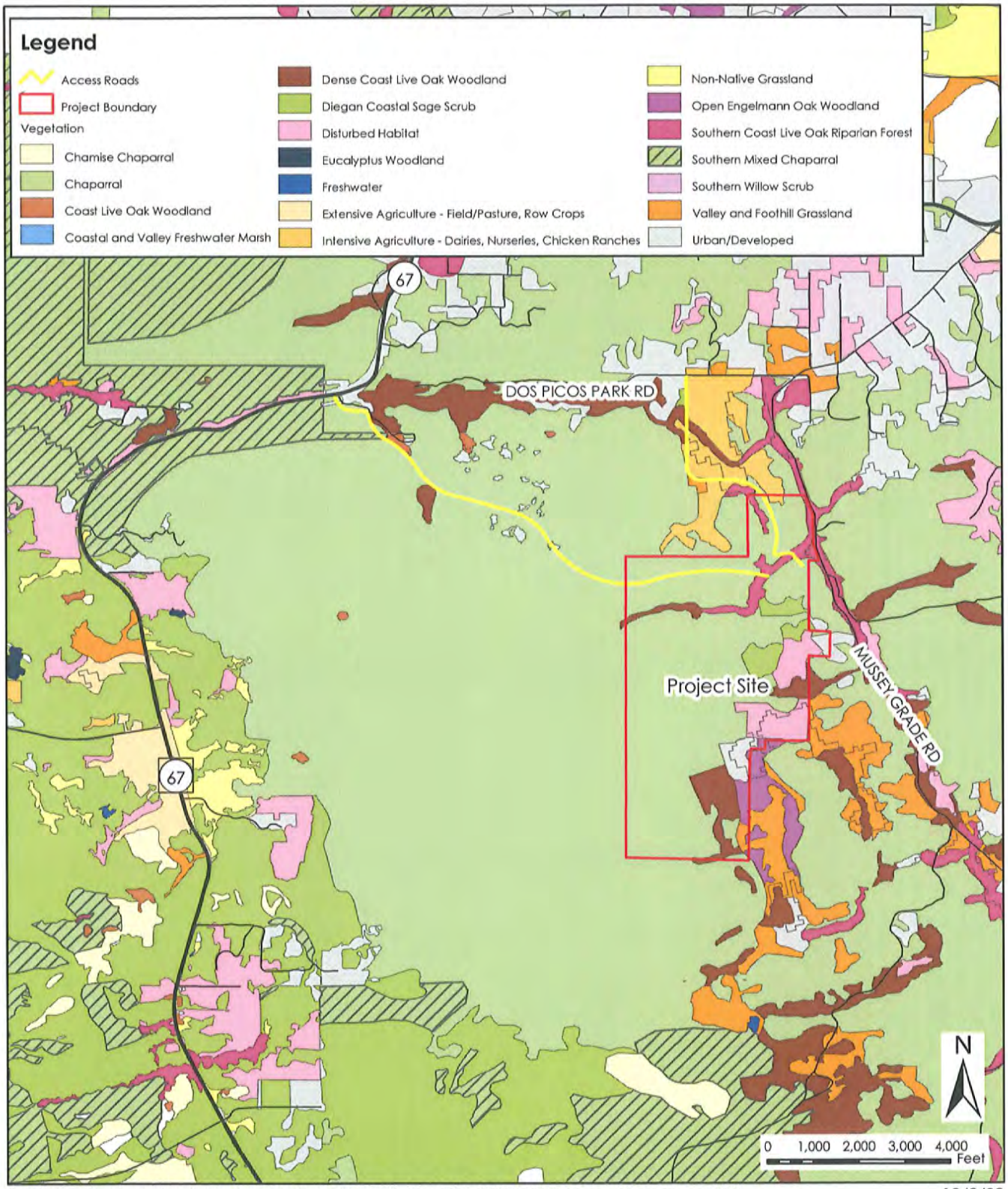
Biological Constraints

FIGURE 2.3-6

F:\projects\920 Salvation Army\Final EIR 2009\Chapter 2\Section 3\Figure 2.3-6 Biological Constraints.ai



SOURCE: Nasland Engineering, 2008; ESRI, 2009; SanGIS, 2009; BRG Consulting, Inc., 2009

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Vegetation Communities

FIGURE 2.3-7

F:\projects\920 Salvation Army\Final EIR 2009\Chapter 2\Section 3\Figure 2.3-7 Vegetation Communities.mxd